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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/121,152	10/19/1998	STEVEN SAY-KYOUN OW	20565-0111	2999

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EXAMINER

ALVO, MARC S

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/121,152

Applicant(s)

OW ET AL

Examiner

Steve Alvo

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s) _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

The obvious-type double patenting rejection has been dropped with the filing of a terminal disclaimer. The rejection of claims 21-25, 27-34 and 36-39 are rejected under 35 U.S.C. 102(b) as anticipated by Japanese Patent Document '299 has been dropped with the amendment to the claims of to "less than 8.0". The claimed "about 3 to less than 8" has been interpreted to mean a lower point of "about 3.0" and an upper point of "less than 8.0" and not "about...less than 8.0". The term "about less than 8.0" would not exclude the 8.0 of Japan '299.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-25, 27-34 and 36-41 are rejected under 35 U.S.C. 103(a) as obvious over Japanese Patent Document '299.

Japan '299 teaches dislodging ink from waste paper during pulping (disintegration) using an enzyme at a pH of 8.0, see page 2 of the translation, last line. Applicant has not shown any unexpected results comparing the pH of 8.0 disclosed by Japan '299, compared to the claimed "less than 8.0" See Example 2 for old newspaper. See page 3, lines 4-5, for temperatures of 40-90 °C for 0.5-360 minutes.

Claims 21-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Document '299 if necessary with CAYLE et al.

Japan '299 teaches the use of cellulase as a deinking agent and teaches using a pH of 8.0. The bottom of page 2 states "cellulase ... can be used ... without any special restriction, although

alkaline cellulase is especially preferred. (Emphasis added) Clearly this reference encompasses use of non alkaline cellulase, and page 4, lines 6-8 state acid or alkali can be added, and that the invention is not restricted to the examples. The first claim teaches cellulase alone as a deinking agent. Although page 3 says you may get better effect using a surfactant, etc, lines 14 and 15 clearly teaches cellulase decomposes the slurry and provides an excellent deinking effect. If necessary, CAYLE et al is cited to teach cellulase enzymes from *Trichoderma viride* (acid enzymes) are known to aid in disintegration of waste paper including newsprint. Thus to have used such a cellulase in a medium having no added alkali would have been prima facie obvious to one of ordinary level of skill in the art, in fact Japan '299 says any cellulase without restriction may be used for deinking. If necessary CAYLE teaches 75-80% water, e.g. consistency of 20-25%, see claim 1 of CAYLE et al.

Claims 27 and 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over GB 2,231,595.

The specific end point of a pH of 7.0 was not disclosed in the Parent Application (07/518,935). It was first disclosed in CIP Application 08/239,313, filed 5/6/1994, now Patent No. 5,785,809. Claims 27 and 37 have an effective filing date of 5/6/1994.

The GB Patent is the equivalent of the parent Application (07/518,935) and teaches everything except using a pH of 7.0. However, the claims include a pH of 3.0 which is specifically disclosed in the GB Patent, see page 4, line 17 of the G.B. Patent.

Claims 26 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2,231,595 in view of CAYLE et al.

The use of *Trichoderma viride* or *Aspregillus niger* were not disclosed in the parent Application 07/518,935. These enzymes were first disclosed in CIP Application 08/239,313, filed 5/6/1994, now Patent No. 5,785,809. Claims 26 and 35 have an effective filing date of 5/6/1994.

The GB Patent is the equivalent of the parent Application (07/518,935) and teaches everything except using *Trichoderma viride* or *Aspregillus niger* as the enzyme. CAYLE et al teaches cellulase enzymes from *Trichoderma viride* are known to aid in disintegration of waste paper including newsprint. It would have been obvious to use the enzyme of CAYLE et al as the disintegrating enzyme of the GB Patent.

The argument that G.B. '595 is the equivalent of the Korean Priority Document of the instant case is not convincing. Applicant is not entitled to the priority date of the Korean Patent to any subject matter first disclosed in CIP Application 08/239,313 (filed 5-6-1994). Claims 26, 27, 35 and 37 are only entitled to the filing date of the CIP, e.g. the time the enzymes *Trichoderma viride* or *Aspregillus niger* and the end point of a pH of 7.0 were first disclosed. The GB Patent has a Patent date of 3-24-1993, which is more than a year prior to 5-6-1994. It is noted that it was also published as an Application on 11-21-1990.

The Declarations of Dr Eveleigh and Dr. Eriksson have been considered, but do not overcome the prima facie case of obviousness. These Declarations do not present any comparison to the closest prior art. It is the opinions of Dr Eveleigh and Dr. Eriksson, that when JAPAN '299 refers to "as well as the acid or neutral range" it is the conditions under which the enzyme may be purified. However, JAPAN '299 states "Such enzyme retains its activity in the alkaline range as well as acid or neutral range...". The retaining of the activity

of an enzyme is a property of the enzyme itself, e.g. retained after formation and purification, it is not the conditions used to purify the enzyme.

The argument that the PPI article (Exhibit B) that the first neutral deinking system began in July 1992 is not convincing for the following reasons:

(1) The claims are not limited to neutral deinking and include acid deinking (pH 3.0 to less than 7.0) and alkaline deinking (pH greater than 7.0 to less than 8.0).

(2) The article states that "the first neutral deinking system began its operation in July of 1992". However, it does not indicate that the technology was not known earlier.

(3) The article states that "the first neutral deinking system began its operation in July of 1992". This is more than a year earlier than the effective dates of claims 26, 27, 35 and 37.

(4) The use of a cellulase having activity in the neutral and acid range would have been obvious from the teachings of JAPAN '299 and/or CAYLE et al.

Applicant pointed out that a prima facie case of obviousness can be rebutted by objective indicia of the lack of such obviousness. However, such would require a comparison to the closest prior art, e.g. the pH of 8.0 disclosed by JAPAN '299. The claims would also have to be commensurate with the evidence presented. Such a comparison has not been made between the instant process and that of JAPAN '299.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


When filing an "Official" FAX in Group 1730, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file. The "Official" FAX phone number for this TC 1700 is: 703-872-9306.

Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is **571-272-1185**. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM (EST)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Steve Griffin, can be reached on **571-272-1189**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **571-272-1700**.

MSA
January 15, 2004


STEVE ALVO
PRIMARY EXAMINER
ART UNIT 1731